Letter to the Editor

Takotsubo-Like Left Ventricular Dysfunction and Coronary Microvascular Dysfunction: Fulminant Cardiac Syndrome X?

To the Editor:

Kume et al provide an elegant mechanistic analysis of the coronary microcirculation in the increasingly recognized entity of takotsubo-like left ventricular (LV) dysfunction (stress-induced cardiomyopathy).\(^1\) Despite a growing awareness and increase in reported cases, the mechanisms responsible for stress-induced cardiomyopathy remain unclear and warrant further study. Kume and colleagues demonstrated that in the acute phase of takotsubo-like LV dysfunction, coronary flow velocity reserve in all 3 major coronary arteries is decreased, and significantly improves during the follow-up phase 3 weeks later.

In neurally mediated cardiomyopathies, approximately one-quarter of patients develop LV dysfunction, however, in 2 distinct patterns: one of apical sparing and the other apical-affected.\(^2\) In multivariate analysis, younger patient age is associated with the apical-sparing pattern, a characteristic feature supported by a recent case series showing a similar apical-sparing pattern in young patients with acute cerebral disorders. The cardiac syndrome in these patients was termed “inverted takotsubo”.\(^3\) This divergence in wall motion pattern provides insight to the differing types of stress-induced cardiomyopathy (stress-induced cardiomyopathy).\(^4\) Accordingly, it could be hypothesized that both exaggerated sympathetic stimulation and transient coronary microvascular dysfunction contribute to the onset of the takotsubo entity. However, the relationship between exaggerated sympathetic activation and coronary microvascular dysfunction remains unclear. Unfortunately, we were unable to elucidate the cause of the latter, but we hope to clarify the precise mechanism of takotsubo-like LV dysfunction in future studies.

References


Author’s Reply

Relationship Between Coronary Microvascular Dysfunction and Exaggerated Sympathetic Activation in Patients With Takotsubo-Like Left Ventricular Dysfunction

We would like to thank Dr Novaro for his thoughtful comments and we appreciate his interest in our study. As you know, recent reports have shown different types of left ventricular (LV) wall motion abnormality and exaggerated sympathetic stimulation in patients with takotsubo-like LV dysfunction. Therefore, we believe that both exaggerated sympathetic activation and coronary microvascular dysfunction contribute to the onset of the takotsubo entity. However, the relationship between exaggerated sympathetic activation and transient coronary microvascular dysfunction remains unclear. Unfortunately, we were unable to elucidate the cause of the latter, but we hope to clarify the precise mechanism of takotsubo-like LV dysfunction in future studies.

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